



**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**DEPARTMENT OF APPLIED CHEMISTRY**  
**END OF SEMESTER TWO EXAMINATIONS – MAY 2005**  
**QUALITY ASSURANCE MANAGEMENT & CONTROL – SCH 4111**  
**QUALITY ASSURANCE MANAGEMENT & CONTROL – SCH 2211**  
**TIME: 3 HOURS**

**INSTRUCTIONS TO CANDIDATES**

Answer **ANY FIVE (5)** questions from the six (6) provided. Each question carries 20 marks.

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1. Discuss the following terms:
    - (a) quality chain
    - (b) quality guru
    - (c) learning organisation
    - (d) zero-defect
    - (e) quality audit (20 marks)
  
  2. (a) **“Quality is for free”**. Discuss this statement giving examples. (5 marks)
  - (b) Discuss the optimum quality costs in relation to **“zero defect”** theory. (10 marks)
  - (c) What is **dramatisation** in TQM? (5 marks)
  
  3. (a) What is **autonomous maintenance**? (5 marks)
  - (b) Describe how autonomous maintenance can be carried out on a steam boiler. (10 marks)
  - (c) Discuss product identification and traceability in ISO 9000. (5 marks)
  
  4. You have recently been appointed Quality Assurance Manager at Metcalf Chemical Manufacturers. Your main responsibility is to introduce ISO 9001 quality management system.  
  
Write a detailed procedure for corrective action to be implemented in the company. Include the specimen form for the document(s) to be used. (20 marks)

5. The following statistics was recorded on a production line for plastic containers over a period of 10 days.

Day	$n$	$np$
1	2431	28
2	1549	32
3	1910	73
4	2560	63
5	1658	39
6	1745	41
7	1978	72
8	1468	110
9	1840	37
10	2815	80

$n$  is number of units and  $np$  is number of defective containers.

Draw the attribute control chart and comment on whether or not the process is under control. (20 marks)

6. The following nasty exchanges occurred at a management meeting at P and M Plastics.

Production Manager to Quality Assurance Manager, "Your job is just to check and reject! Can't you see you are costing lots of money to the company. We spend whole days in the heat. You sit in your office only to come out and say reject. Are you Mr Reject?"

Quality Assurance Manager, "Piss off. You can't do things right. You want me to do your job. You don't follow procedures. Above all you are just arrogant".

- (a) This heated exchange suggests that there is something wrong with the company's management approach to quality. Discuss (10 marks)
- (b) Write down the appropriate job description of a Quality Assurance Manager in a modern manufacturing company. (10 marks)

*End of question Paper!!!*